

ISA116

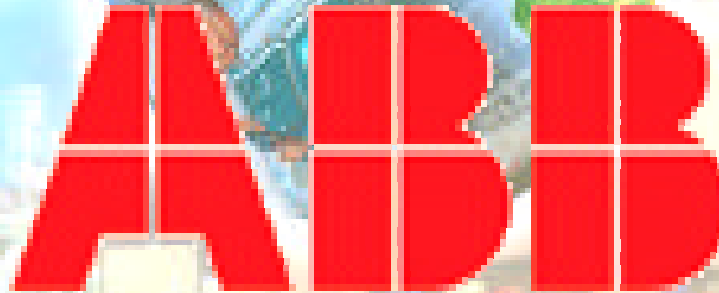
Power Plant Operational Systems Security Panel

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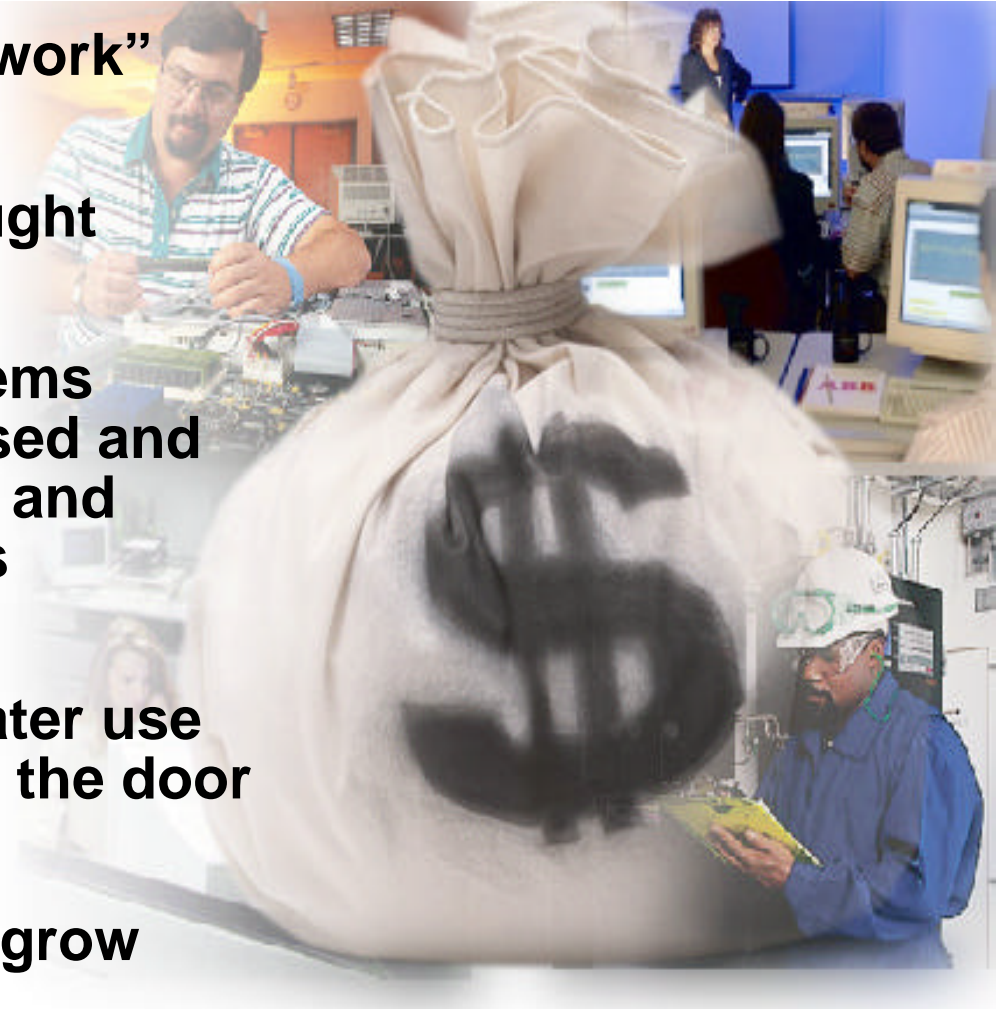


Power Plant Automation

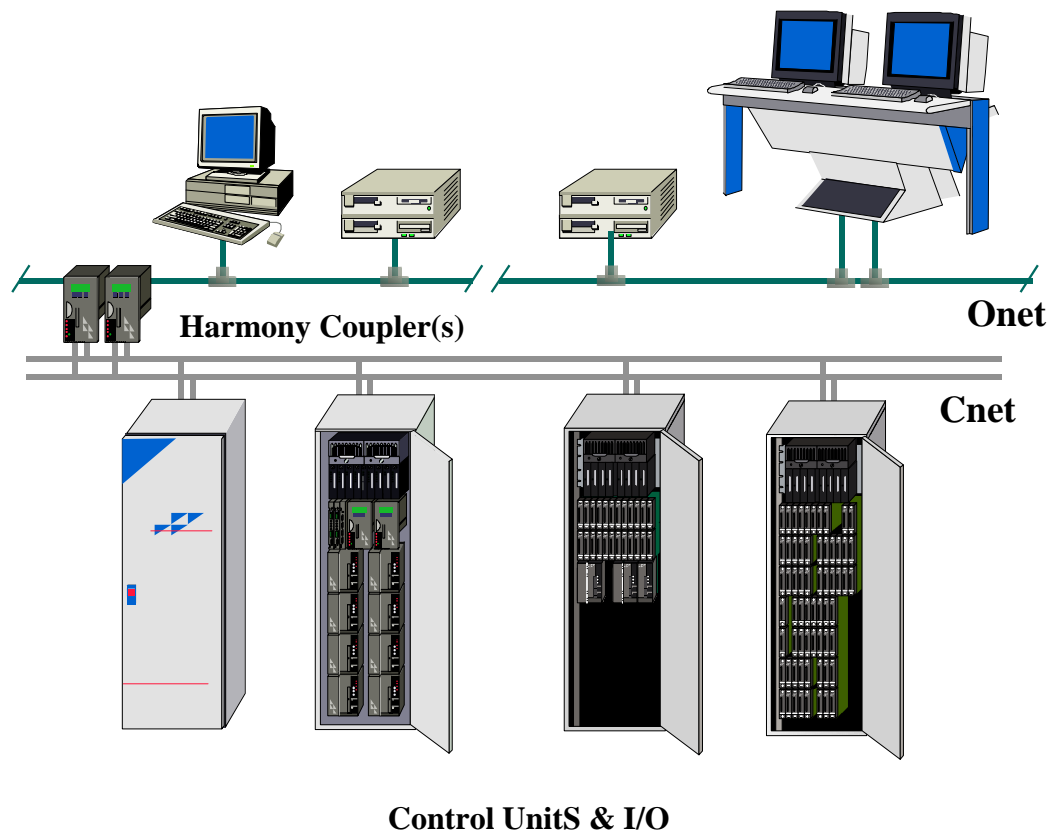
The Next Way of Thinking

Why is Security an Issue Now?

- A long time ago the “Network” was copper tubing
- The next generation brought analog electronics
- Distributed Control Systems (DCS) where built on closed and proprietary architectures and communication networks
- Today Enterprise Wide connectivity and the greater use of open standards opens the door to security issues.
- Tomorrow the threat will grow

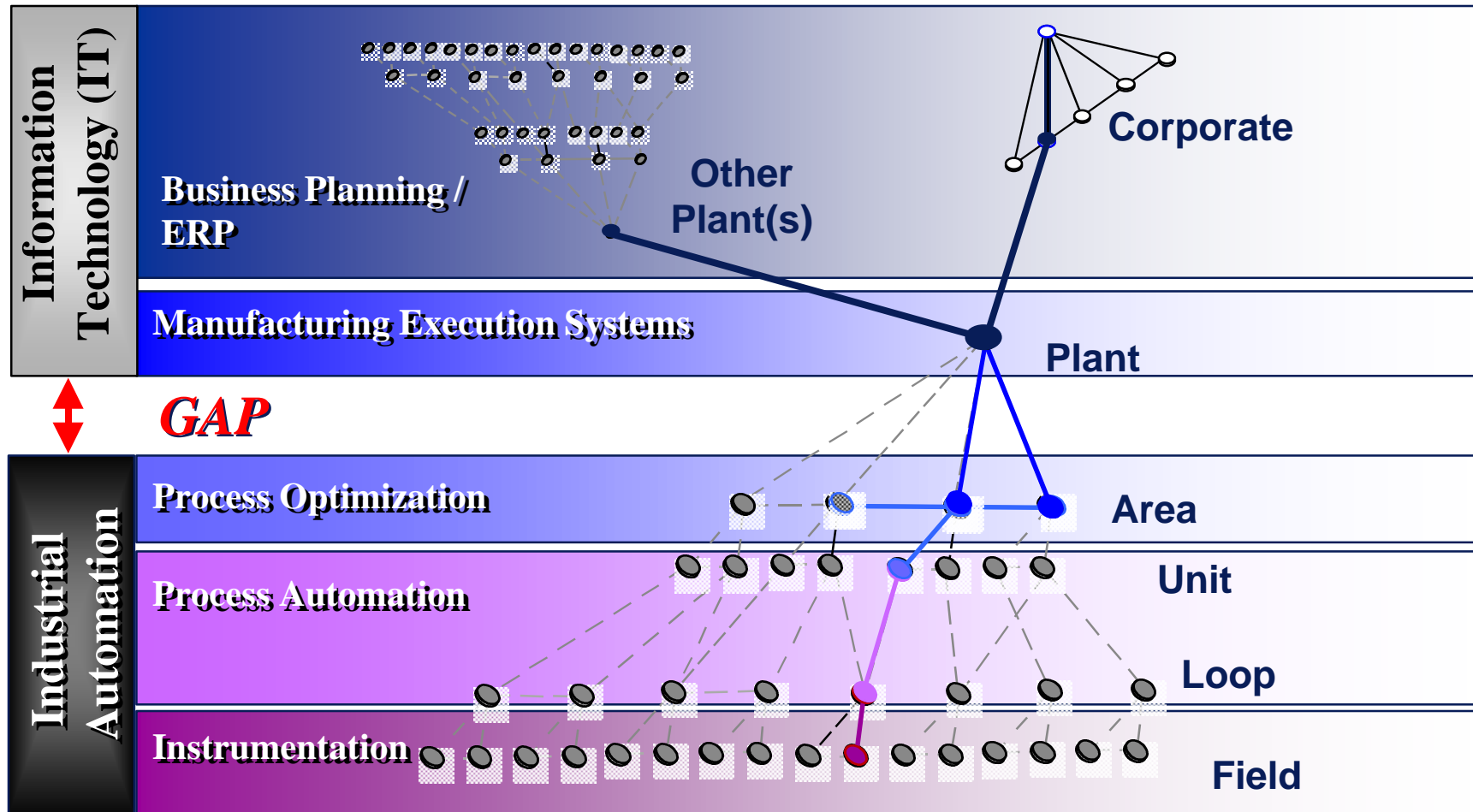


Typical Current Generation DCS Architecture

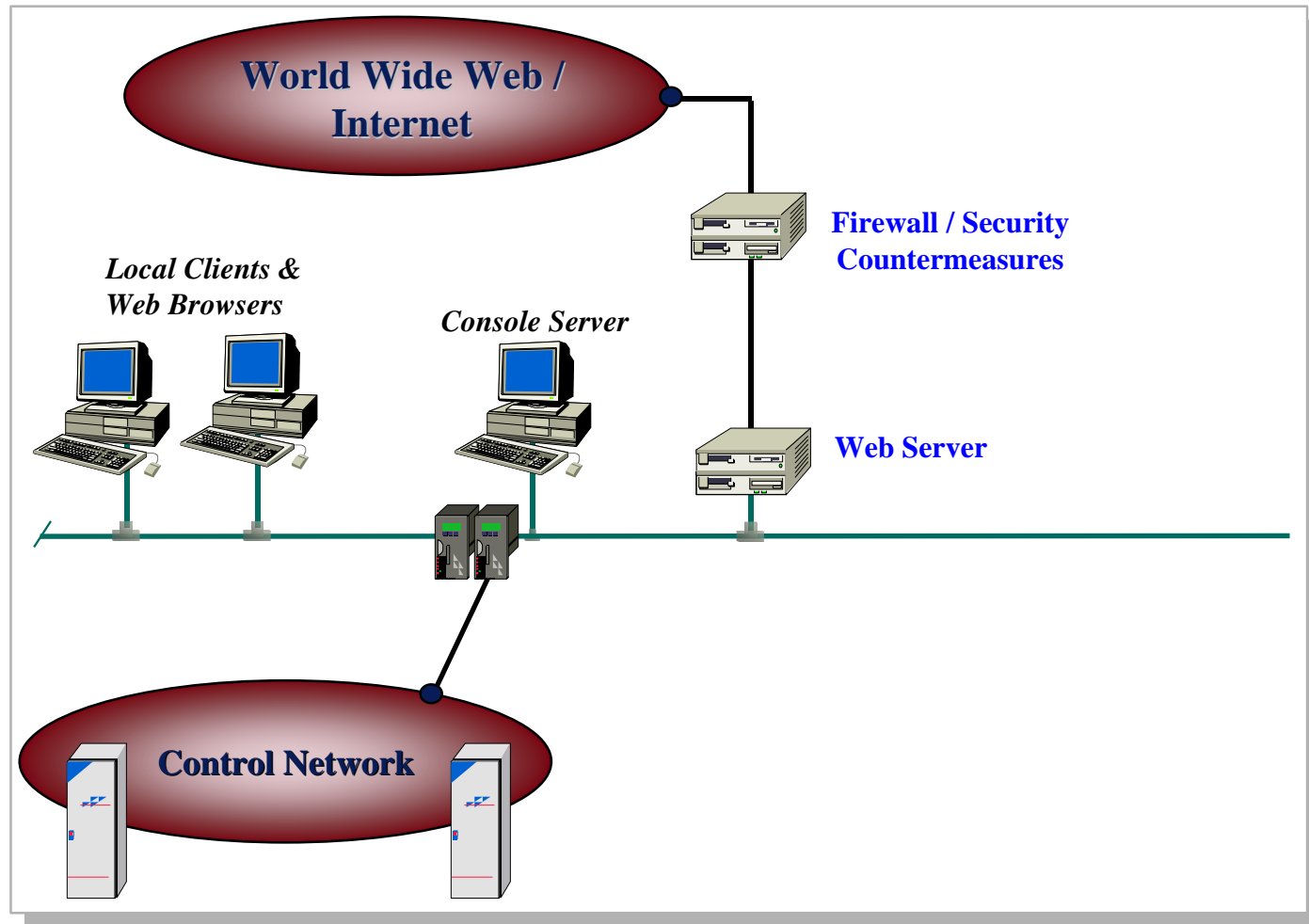


- Controllers and I/O located in cabinets and closely coupled using proprietary standards
- Plant Wide Control Net uses proprietary physical layer and protocol
- The Operations Network built on Ethernet and TCP/IP or other open standard
- Many plants still not connected outside of the physical plant location

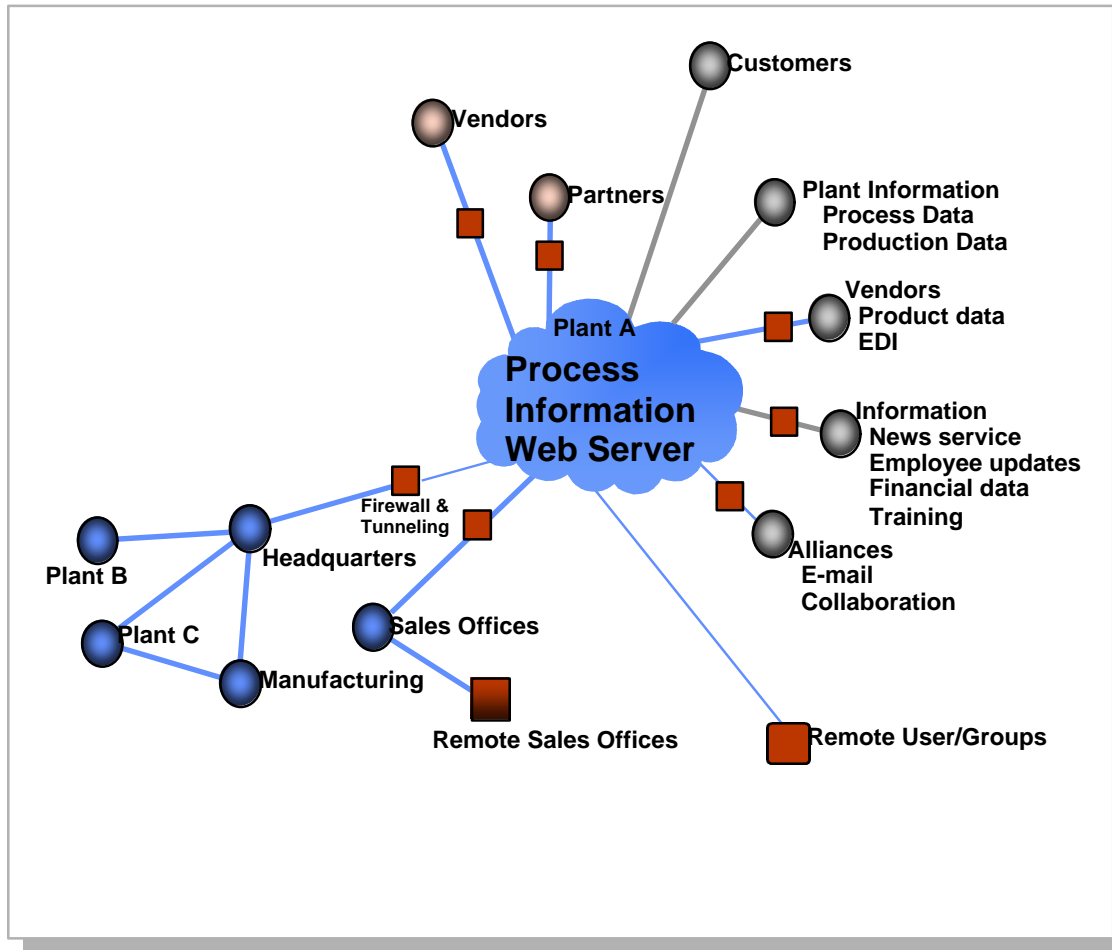
Traditional Automation View



Typical DCS with Connection to the World



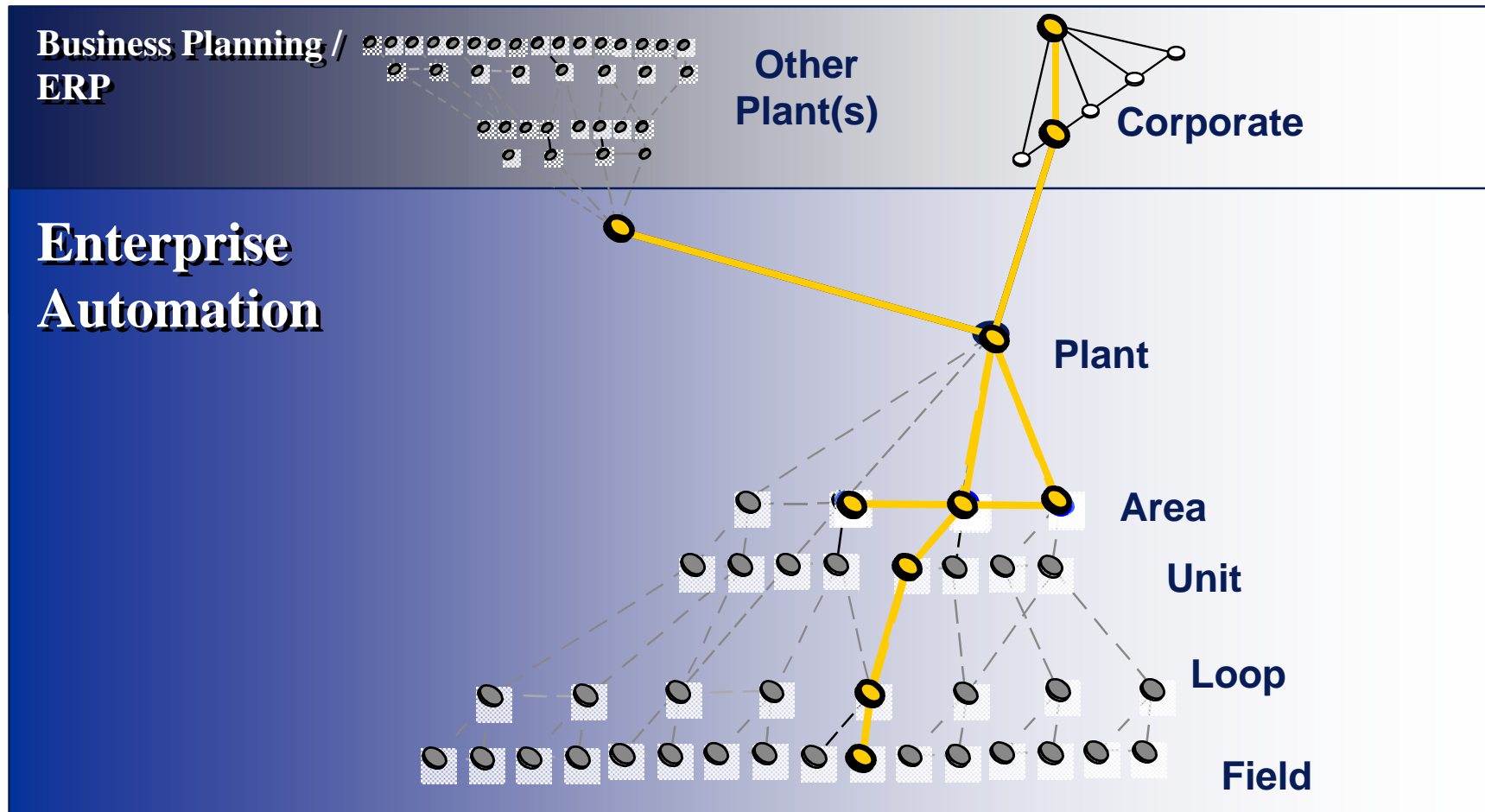
Use of DCS Data Within an Enterprise



Intranet/Internet Communication

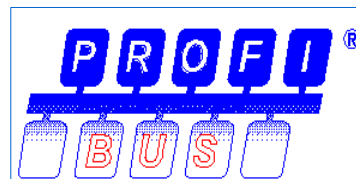
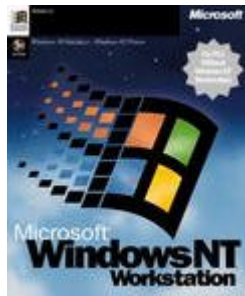
- Provides reliable, economical, global communications for enterprise users
- Supports secure connectivity to the Internet
- Connect mobile workers to their extended enterprise
- Supports dynamic collaboration across the extended enterprise

Enterprise Automation View



Today's Use of Standards & Into the Future

For Open, Easily-Maintained Solutions



HART

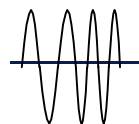
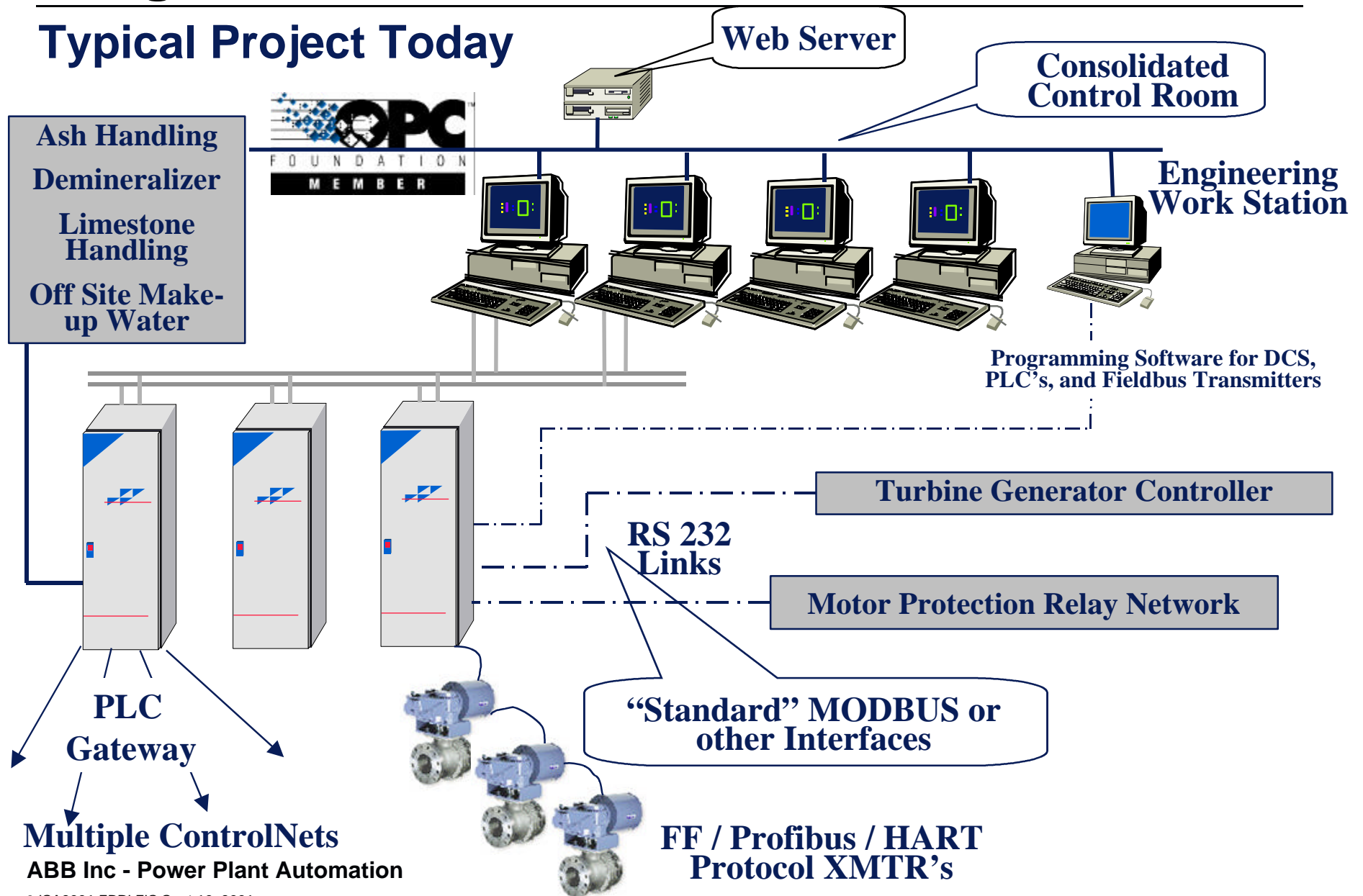


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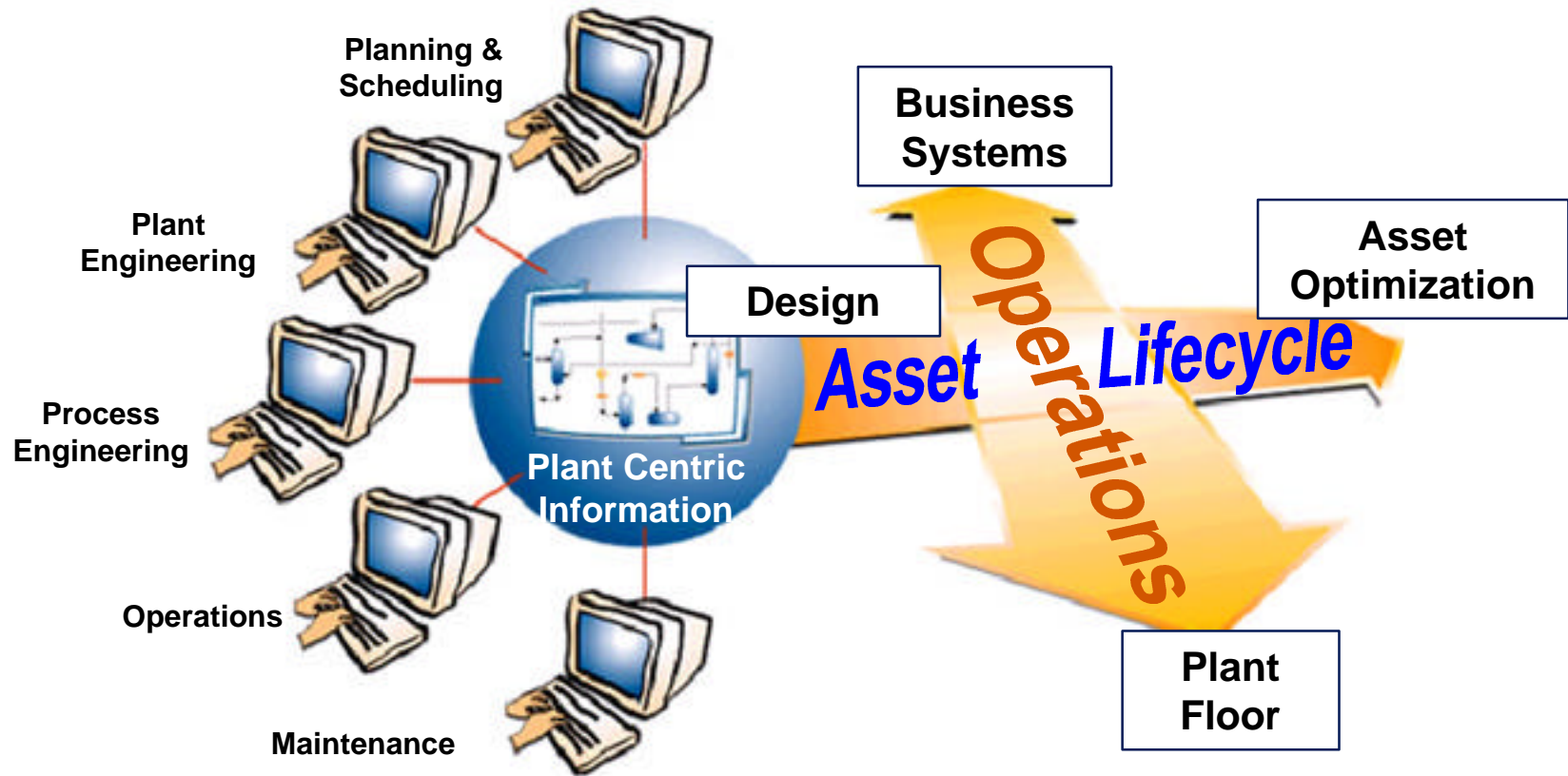
8 ISA2001 EPRI EIS Sept 10, 2001

Integration of Automation Islands...

Typical Project Today



. . . Enterprise Dimension



One System Architecture

Focused on greater productivity, asset optimization and decision support.